Title: Development of Tc-99m Imaging Agents for Abeta Plaques
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^{99m}Tc labeled stilbenes aspotential imaging agents for β-amyloidplaques in the brain

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Development of SPECT imaging agents based on Tc-99m targeting Aβ plaques is useful for diagnosis of Alzheimer'sdisease (AD). A stilbenederivative, [^{11}C]SB-13, showing promise in detecting senile plaquespresent in AD patients has been reported previously[1,2]. Based on the 4'-amino-stilbene core structure we have addedsubstituted groups through which a chelating group, N_2S_2,was conjugated. We report herein a series of Tc-99m labeled stilbene derivativeconjugated with a TcO[N_2S_2]core.

The syntheses of stilbenes containing a N_2S_2chelating ligand are achieved by a scheme shown. Lipophilic ^{99m}Tcstilbene complexes were successfully prepared and purified through HPLC. Preliminary results of *in vitro* labeling of brain sections from transgenic miceshowed very promising plaque labeling. These ^{99m}Tc stilbenederivatives are warranted for further evaluations as potential imaging agentstargeting amyloid plaques.

References:

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We have recently publish a paper in the Nuclear Medicine andBiology:
Zhuang ZP, Kung MP, Hou C, Ploessl K, Kung HF. Biphenyls labeled with technetium 99mfor imaging beta-amyloid plaques in the brain. Nucl Med Biol. 2005Feb;32(2):171-84.